Reciprocity and Sharing in an Underground File Sharing Community

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Abstract

This paper presents an ethnography of an underground music file sharing community. Roswell exists as a means to download and share digital music. The web-based community is based on distributed peer-to-peer technology and uses BitTorrent protocols to share content. Actor-Network Theory is used to understand importance of reciprocity and sharing in an online file sharing community, and the role that obligations and banishment play in encouraging active participation. This paper contributes to the Information Systems literature by applying Actor-Network Theory to an ethnographic empirical study of an online music community.

Keywords

Ethnography, music, Actor-network Theory, culture

INTRODUCTION

Music file sharing over the Internet, and the people who engage in this activity are not well understood, "we lack a deep understanding of individual's downloading practices" (Kinnally, Lacayo, McClung and Sapolsky, 2008). Within this context, the emergence of new technologies inevitably raise ethical questions (Forester and Morrison, 1994; Light, McGrath and Griffiths, 2008). The growth of file sharing is an area of concern needing more attention (Andersen and Frenz, 2007; Klimis and Wallis, 2009). File sharing is rarely a topic of discussion in the Information Systems literature, and when it is, it is often quantitative (Chidambaram and Tung, 2005; Smith and Telang, 2009), or focused more on a resource view of technology (Caldeira and Ward, 2003; Wasko and Faraj, 2005), than a people view. Often the discussion is related to managing or determining the costs of piracy (Sandararajan, 2004; Bagchi, Kirs and Cerveny, 2006). This paper presents a qualitative study of file sharing, focusing on everyday activities.

New opportunities for the digital delivery of music have brought about new tools and technologies for accessing and listening to music (Kasaras, 2002). Established music providers have attempted to move their traditional ideologies to online distribution with varying success. The Internet removes physical distribution as a barrier to entering this established industry, and has bought "a flood of new players" (Porter, 2008). Many new players are not traditional music distributors; they are technology companies like Apple Computers who, over the past decade, have established themselves as an integral part of online music distribution. Competition to capture the paying music customer is strong as the industry goes through these major changes (Kretschmer, 2004).

Not everyone is happy with the commercial options available to access music. Individuals are seeing less and less value in the digital MP3 artifact (Sterne, 2006), often referred to as temporary or throw-away items. So a significant number of individuals are using unauthorised file sharing sites and communities to get their music for free (Sirotic, 2005; Skageby and Pargman, 2005; Andersen and Frenz, 2007; Richards, 2007). However file-sharing ideologies have landed consumers, software providers and distribution intermediaries in courtrooms over the past few years, with the topic also being battled out in the 'court of public appeal' (Gillespie, 2007:23).

As Information Systems researchers and developers, it is possible to learn a great deal about online music needs and cultural practices from investigating file sharing systems and networks and those who use them. File sharing systems and communities were originally developed in the 1980's *by* users *for users* as a means to share digital content. Napster was the first of these systems to be available to the general public; with private networks available long before this, but only to a select few. These private/underground networks have a much longer history than commercial online music stores such as iTunes, and they give interesting insight into the way that people access, use and share music (Olivera, Goodman and Tan, 2008).

This paper presents an ethnography of an underground music file sharing community, which is part of a larger doctoral study exploring the way people use online music systems and technologies (Beekhuyzen, 2009). This paper focuses on the observations carried out as part of the larger study, drawing on interpretations from interviews and focus groups to put the observations in context. This paper contributes to the Information Systems

literature by applying Actor-Network Theory (Callon, 1986; Latour, 1987) to an ethnographic empirical study of an underground music file sharing community (referred to hereafter as Roswell). The first author conducted a thorough literature review to find that Actor-Network Theory (ANT) hasn't been applied to an online music context.

Roswell is a form of computer-mediated communication that is defined by participation and presence (Campbell, Greenhill and Fletcher, 2002). Like the online forum explored by Campbell et al., it exhibits "tribe-like" group boundaries. Roswell was established in 2005 primarily to share digital content such as music, movies, software and games. This paper focuses on the music aspect of the community. It is an invitation-only community, based on distributed peer-to-peer technology using BitTorrent protocols, commonly used for distributing large amounts of data. The website is an access point to give members access to lists of available content.

Roswell's *underground* nature can mostly be attributed to the questionable legality of the digital content being shared, so ethical considerations were taken seriously in this study. For example, the community's real name cannot be disclosed; and actual members could not be interviewed, but individuals engaged in communities similar to Roswell were interviewed to support the observations, and to give insight into the everyday activities. This community was chosen for a number of reasons: access – the first named author was sent an invitation to join by a former fellow student; uniqueness - and it provides a research site not often accessible to researchers; and because of its non-public nature - this type of community can rarely be documented and analysed as part of rigorous research without betraying the anonymity and integrity of the community and its members.

LITERATURE REVIEW

In recent years there has been an explosion of online technologies as a way to access, listen and share music. The results of a US-based Pew Internet Project survey back in 2005 reported that 36 million Americans, or 27% of Internet users are downloading music or video files over the Internet; and they found that sharing music is not uncommon (Pew, 2005). This is in line with the findings from the European INDICARE project in the same year which reported "29% of digital music users obtain music from online music stores" (Dufft, 2005).

According to the International Foundation for the Phonographic Industry, the digital music business internationally saw a sixth year of expansion in 2008, growing by an estimated 25 per cent overall to US$3.7 billion in trade value. This growth is significant as digital platforms now account for around 20 per cent of recorded music sales, a figure which has risen 15 per cent since 2007 (2009). In 2006, Australians spent $60 million on digital music downloads and IBISworld's Australian General Manager predicted that this figure would almost double by 2010 (Hayes, 2006b).

Despite this growth, IFPI argue that "the music sector is still overshadowed by the huge amount of unlicensed music distributed online" (2009). On collating separate studies in 16 countries over a three-year period, IFPI estimates over 40 billion files were illegally file-shared in 2008, giving a piracy rate of around 95 per cent (2009). However there is little agreement about the accuracy of such piracy statistics put forth by the industry, with them previously being questioned by Australia's Attorney General's department (Hayes, 2006a). And there is little understanding of the effect of such activities on music purchases, evidenced by a recent study from the Norwegian School of Management which found that those who download 'free' music (either authorised or unauthorised) are ten times more likely to purchase music (Gran and Molde, 2009).

Complimenting and extending this research within the Australian context is the empirical study which found that music users are situated on a continuum of use – some download only from paid authorised sources, some only download from free, unauthorised sources (file sharing), and others operate in both spaces simultaneously (Singh, Jackson, Waycott and Beekhuyzen, 2005). The motivations of those operating in both spaces are particularly of interest, as they are more likely to be influenced to use paid music services (Sag, 2006).

There have been few studies which investigate online music access and use, and even fewer which examine the underground context of music file sharing. The first author's recent paper presented a taxonomy of empirical studies and summarised this literature (Beekhuyzen and von Hellens, 2008). In doing so, a number of major themes were identified. A download culture exists in which consumers access music from a variety of sources, and often from a combination of sources (Singh et al., 2005; Tanner, Ashbridge and Wortley, 2008), with some of them being illegal in many countries (Cooper and Harrison, 2001). Sharing music is important in establishing a download culture (Voida, Grinter, Ducheneaut, Edwards and Newman, 2005; Russell, 2006) and the motivations for contributing in file sharing communities need attention (Wasko and Faraj, 2005; Olivera et al., 2008). Personalisation of user interfaces and of individual preferences such as playlists etc helps to make engaging in a community more inviting (Waycott, Jackson, Singh and Beekhuyzen, 2005) and encourages a feeling of connectedness to the community culture to which they are a part.

Studies show that consumers are willing to pay for music if they are offered something of value that they cannot get for free (Dufft, 2005; Nettamo, Nirhamo and Hakkila, 2006); they want interoperability (Heileman and Jamkhedkar, 2005) and value for money (Fetscherin, 2005). An analysis of the literature points to some misunderstandings as to what digital rights management is, and how it enhances or restricts, the music experience (Dufft, 2005). Digital Rights Management (DRM) is beginning to play less of a role in online music as many distributors are moving away from using such technology. However DRM is still prevalent in a number of online music stores such as the Nokia mobile music store, so it needs mentioning.

Underground (private) file sharing communities similar to Roswell have existed for at least two decades. Because of this history, such communities have had the ability to evolve over time to meet users' needs, more than the online stores like iTunes, which are still in their infancy. One explanation about the motivations of those using underground file sharing communities is due to "refusing the implied arrangement of their activity the tool proposes" (Gillespie, 2007:89). iTunes and other paid services, particularly those that use digital rights management, are quite prescriptive in what can and cannot be done with the content. There is evidence that some consumers are discontent with commercial options (Dufft, 2005), and are moving to other systems.

THE ETHNOGRAPHY

Through studying communities as an ethnography, it is often easier to conceptualise the problem in the wider social and cultural context. de Laine defines ethnography as, 'the research *processes* for conducting research (fieldwork and reorganising and editing materials for presentation); and it is the *product* of research (prose) (de Laine, 1997:16). The task is to "pull together numerous observations of actual behaviour, coupled with insights and explanations to form some comprehensive blueprint, archetype 'code' or set of implicit 'rules' or 'standards' for behaviour" (Wolcott, 1990:55). Four months of observations of an online community (Roswell) form the basis of this ethnography (and are the basis for this paper), and these insights are strengthened through 31 interviews with music consumers, musicians, and key people in the music industry (to be published in future papers). These insights provide a rich description of online music access and use, with a focus on a private and difficult to access online community. Observing the Roswell community over an extended period such as this is useful to understand the motivations and behaviour of general music users (those interviewed). Through a cultural analysis, we can gain a deeper understanding of people's social action. However it is important to remember that understanding culture involves interpreting meaning, not just observing.

There are criticisms of ethnographies that need acknowledging, the main criticism being the choice of small samples in an ethnography which represents a trade-off between studying cases in depth or breadth (de Laine, 1997:24). The choice of small sample sizes provides an opportunity for deep analysis in an ethnography, resulting in thick descriptions (Geertz, 1973) of a particular setting or scenario. Rather than seeing this as a negative, purposefully choosing the setting (Patton, 1990:169) can provide a good opportunity to investigate a problem in great detail. Roswell was chosen purposefully. Because the purpose of this study is to understanding the meanings shared by a social group (Roswell members) and their culturally specific model of experience (de Laine, 1997:46) this approach can help to gain a group member's (or actor-oriented) perspective.

Recording the Observations

The observations of Roswell were recorded on one day out of each week over the 120 days, however it was possible at this time to retrieve recorded data from each day of the week (on this day) by going to previous days records; this one-day record provides a snapshot of activities for that week. The recording included dating each hard copy observation sheet and recording the time observing for that day began and concluded. It also included recording information presented on the home/welcome page of the site which changed somewhat frequently over the 120 days, the types of users that were currently listed as members (summaries, the full details were placed in a spreadsheet), recording all content added since the last observation activity one week prior (and their details), and then separating out the music content such as albums and tracks and music videos (the full content listings contain other categories of content other than music-related content). Additional notes about users and content were recorded on the observation sheet, all related data was cut and pasted into a spreadsheet for easier organising and later analysis. Ideas and related comments were recorded on the observation sheet.

CONTROVERSIES IN ACTOR-NETWORK THEORY

Actor-network theory (ANT) is an interdisciplinary approach to studying issues of technology and society (Callon, 1986; Latour, 1987; Law, 1987). It is an established social theory for investigating information systems (Walsham, 1997; Myers, 1999) and social informatics (Walsham and Sahay, 1999) research. Thus this paper contributes to the Information Systems literature by applying this established theory to a new context, that of online music communities. Contemporary online music access and use is a complex issue with many competing

interests at stake. Actor-Network Theory (ANT) is the adopted theory for this study due to its ability to view people and technology equally in the music network. This choice is consistent with the assumptions underlying the use social informatics (Kling, Rosenbaum and Sawyer, 2005). ANT is useful in identifying and discussing the relationships between the participants in the music network.

Actor-network theory is also useful in identifying and mapping the controversies at the core of file sharing. According to Latour (1993), science is intricately and inextricably related to power, and the study of science from an ANT perspective inevitably leads into politics. Mapping the controversies emphasises the importance of identifying the conflicts surrounding music access and use to see how particular struggles or controversies 'turned out this way'. This approach brings a focus to the black boxes - the issues that are taken for granted, issues that are often not given any explanation. In focusing on the controversies, the black boxes begin to open to show the complex chains of actor-networks which are normally concealed by the black box effect (Latour, 1999). These controversies frame the findings in this study and are discussed in detail in the following section.

Actor-Network Theory also provides the tools to investigate the sensitive balance between the technical and social aspects of the community. Lee (2003) argues that peer-to-peer (P2P) file sharing systems blur the distinction between the various technologies present in the network, and suggests that is necessary to learn more about how individuals interact in this highly technical network. He proposes to gather "an overall picture of how current users perceive existing file-sharing systems, the importance of various features, and the concerns underlying these reactions" (Lee, 2003). By investigating the everyday interactions, it is possible to understand values and motivations towards music downloads and file sharing, and it is possible to gain an understanding of how cultural values shape technology use. Actor-Network Theory or ANT as it is abbreviated, is a useful lens to investigate the Roswell community as its main consideration is in understanding the relationships between humans and non-humans in an actor-network. It is not so concerned with why a network takes its form, rather it is concerned with how actor-networks are formed, evolve and are maintained.

ANT is useful for this study as it encourages the examination of motivations of group actors – which is relevant to understand the interactions of members of Roswell within the technology infrastructure of the community. This approach in this study is in line with Shoib, Nandhakumar and Jones (2006) who argue that this makes ANT suitable for high-context, collective environments and it provides the ability to be specific about the technology (Monteiro and Hanseth, 1996).

RECIPROCITY IN UNDERGROUND MUSIC FILE SHARING COMMUNITIES

Peer-to-peer (P2P) file sharing, or the downloading of unauthorised files through networks, can occur in public (e.g. Limewire) or private (e.g. Roswell) file sharing contexts. The goal of P2P is to "share files between users themselves, rather than downloading files from file servers" (Dastidar, Herman and Johnen, 2008) however there is some hesitation in referring to public file sharing contexts as 'communities'. Communities have the following core attributes: shared goal/interest/activity, active participation, access to resources, reciprocity, and shared language (Whittaker, Isaacs and O'Day, 1997:137). However some of these attributes are controversial.

While those engaging in public file sharing generally have shared goal (to get music for free), access to resources (the available content) and a shared language (file sharing jargon) for the act of file sharing, public file sharing contexts fall short of being a community because there is no mandate for ongoing active participation (regular or ongoing interaction), or for reciprocity (sharing back). The concept of reciprocity and the extent to which it is essential in community interactions is contentious in the literature, however in the context of file sharing it is argued here that this, in addition to active participation, are necessary elements of what can be considered an online file sharing *community*.

File sharing has existed as long as the trading of digital files was possible. Underground communities have a secret, almost mystical history, with little public information available on how they formed and have evolved over the years. Although they have been in existence for decades (based on anecdotal evidence), very little is known about them. The study of Roswell contributes to this gap in the literature.

Community Culture

Roswell is an institution(Latour, 1996), parts of which are delegated to pieces of machinery (P2P networks, BitTorrent protocols), parts of which are delegated to collective persons (the community 'meeting place') and parts of which are delegated to humans (members, administrators and top site sources). The social arrangements and technical inscriptions built into everyday life in Roswell enable certain behaviour and cultural practices within the community. In doing so, they constitute a certain order of things (Shoib et al., 2006).

Potential members are drawn to an underground file sharing community such as Roswell for a number of reasons. One of the main reasons is their strong identification with the collective Roswell culture in terms of its

underlying beliefs and values that are embedded within the community. File sharing is illegal in many countries, because it often is a means to share content without authorisation from the copyright owner. Those individuals who identify with the sub-culture holding the beliefs that music should be free, or that access to free music is not immoral, may be drawn to this type of community. Those with technical abilities to rival their peers within the community are admitted. By identifying with the deviant sub-culture collective, individuals are to some extent making a statement against the mainstream collective which for the most part, is paid recorded music.

Members in Roswell have a strong trust, not specifically in others in the community as Putnam (1995a) says, but a trust in the community as 'always on - meeting place'. The trust is that there will be a community available to participate in, trust that the content available will be of the highest quality, and trust that all communications and transactions (downloading and sharing) are as anonymous and hidden as possible. So in some ways there is trust in the system operators and administrators to fulfil all of these expectations, and these expectations are built as much as possible into the rules and the rituals of those in the community. There is also trust that other members will respect and embrace these rules in order to contribute to building a sustainable community.

Active Participation

Wasko and Faraj (2005) argue that people contribute their knowledge when they are structurally embedded in the network, we consider Roswell and member's perceptions about contribution and participation. Being a member of Roswell means that a person is structurally embedded in the Roswell network. When a member joins, they are allocated to a member class/role, which inherits certain privileges. They become both a leech and a seeder when they participate within the community, which structurally embeds them in the network as they become the recipient and subsequent provider of content. Being a member, comes the expectation that they will contribute on a regular basis, and that they will make every effort to be an active part of the community. They often form alliances and connections with others in the community while in this role (which is evidenced through comments, requests, and forum posts) and it is expected that this added level of connectedness can also encourage contribution as people feel others are 'relying on them'.

Within the social framework defined by the Roswell's purpose and policies, people ultimately strive to satisfy their own needs. Whether they contribute to the good of the community or are just there to indulge themselves depends on the community's policies. Thus the purpose, the people and the policies comprising a community determine what it is like (Preece, 2000:7), and define how they engage and contribute. Members in Roswell are required to contribute. If they fail to do so, their membership to the community is revoked.

Wasko and Faraj (2005) believe knowledge contribution is formed through three types of capital; structural, cognitive and relational. Structural capital refers to a 'habit of cooperation' which is based on regular interactions and the strength of the ties with other members in the community. Roswell exhibits characteristics of structural capital in its encouraging of regular interactions. It is not however known how strong the ties are between members of the community, however everyone in the community knows at least one other person (the person who invited them) however they may not know anyone else. It is expected that some in the community do have direct ties in real life and also through their online personas as those at the 'top' of this type of community need to be known, respected and connected. Rogers and Kincaid (1981) add to this understanding of structural capital by arguing that individuals are likely to understand and comply with group norms and expectations, which can help to explain the strong conformance to the rules in Roswell.

Members do more than perceive an obligation to participate in the Roswell community. As mentioned previously, members are obliged to participate and interact regularly within the community in order for membership to be maintained. It is important to note though that this is not made clear on joining the community, and it is not highlighted any more than any other topics in the frequently asked questions. So it is suspected that those who are attracted and thus engage in a community such as this are in the habit of interacting regularly within a community of this type so it doesn't need to be made clear that membership accounts expire or can be revoked for lack of participation.

In order to become and remain a member of Roswell, an individual must recognize and abide by the cooperative norms of the community (Putnam, 1995b). To a new member, the community norms are not clear, unless a person has previous experience with a community such as Roswell. To understand these norms a relatively inexperienced user (such as myself) needs to look for patterns of activities or rituals that occur on a daily or some other regular basis, needs to understand the language being used, and needs understand the beliefs and values of those engaging in the community. Culture is legitimised through this acknowledgement and active participation is a norm of the community.

One of the reasons Roswell was sustainable for four years (until its closure on 1/1/09) and could be considered successful for an extended period of time is due to the regular participation of members of the community. If a member ceases to participate for a defined period of time (4 weeks), the member's account is terminated. This

rule is a motivating factor for regular interaction. Some authors in the literature argue that positive and regular contribution behaviours can improve organizational effectiveness (Goodman and Darr, 1998; Olivera et al., 2008) and this appears to be the case in Roswell.

Obligations

Active participation occurs when contributions exist without regard to expectations of reciprocity from others or high levels of commitment to the network (Wasko and Faraj, 2005). This paper argues that this can be a way of explaining activities in public file sharing systems like LimeWire, that the expectation of reciprocity and commitment is low and accepted by those participating, however in a community such as Roswell, reciprocity and high levels of commitment are not only expected but they must occur else the member faces removal from the community. This happens through a lack of involvement for a period of time (removed after 4 weeks), or a low share ratio (which if it falls below an acceptable level, then the member is also removed).

Wasko and Faraj (2005) distinguish between two types of relational capital in communities; commitment and reciprocity. They believe that commitment to a collective conveys a sense of responsibility to help others because of their shared membership. They refer to previous research arguing that individuals committed to participation are motivated by a sense of obligation to the organization. In Roswell this may be taken a step further with members motivated by a sense of obligation to the cause, to the sub-culture, to the deviation from the mainstream as a whole.

To extend the discussion on commitment, trust is a key aspect of relational capital (Wasko and Faraj, 2005). Research suggests that the trust of others in terms of ability, benevolence and integrity is related to motivations to participate and engage; this is true of Roswell where other member's technical ability is appreciated and expected, benevolence is built into the values of the system architecture, and integrity is paramount to build up these relationships based on trust. Although the concept of trust has been studied in a diversity of settings, Wasko and Faraj argue that reciprocity has been given little attention.

The underlying philosophy of peer-to-peer technology is reciprocity. Values of reciprocity are embedded in the design of systems that use such technology, such as underground file sharing communities like Roswell. Wellman and Gulia (1999) acknowledge that even between strangers, there is evidence of reciprocal supportiveness; and communities such as Roswell operate on a strong sense of reciprocity (favours given and received), in addition to a strong sense of fairness (Wasko and Faraj, 2000). In fact, it is these regular multiple exchanges with members unknown that form the norms of the Roswell community.

Banishment

Not all community interactions are positive. Some authors argue that conflict is an integral element in social interrelations (Campbell et al., 2002). Campbell et al. go further to say that ritualised practices of conflict assist in unifying and defining the community boundaries. From their perspective of conflict as a form of tribal behaviour, they give examples from their empirical study that reveals the most obvious form of this "potential punitive action" is in the form of banishment (2002). They argue that not all instances of online communities are positive (Fletcher, Greenhill and Campbell, 2006); conflict is an alternative perspective for understanding social interaction and identity shaping in an online community (Campbell, Fletcher and Greenhill, 2008).

Roswell manifests actions of banishment in relation to two activities; uploading files, and sharing. In the former, a file that is uploaded without following the strict requirements for naming conventions of the file is banished by being 'nuked'. For a file to be 'nuked', it is firstly identified by moderators of Roswell or individuals from a 'top site' as being an inferior copy of the digital file. When a file is 'nuked', it is tagged as being an inferior copy.The action of nuking a file has a number of side effects on the identity of the individual that uploaded the file. It links the member with inferior content, resulting in a decrease in their perceived status within the community. It could also influence the way their status is viewed outside of the community amongst the 'top sites', if they posted the content at the higher level and then it was filtered down to Roswell.

Banishment occurs if a member refuses to contribute by sharing their downloaded content within the community. This act is commonly called free riding. Most software used to download BitTorrent files enables the sharing option by default. However if a user changes this setting and no longer shares, this will be reflected in the member's share ratio (amount downloaded vs shared). If they continue to download new content and not share it back, their ratio will reach 0% or minus, and they will be banished from the community. Members are not banished immediately when they reach 0%, if their ratio moves to a minus number, they are given a grace period of four weeks to redeem their ratio (so that it is above 0) else they are removed from the community. This information is not formally codified in the rules; it is part of the informal learnings from within the community.

Sharing

Individual motivations and social capital influence knowledge contribution in electronic networks (Wasko and Faraj, 2005). Although Wasko and Faraj argue that current theory and research suggest that significant levels of social capital and knowledge exchange will not develop in electronic networks of practice (2005), their paper provides particular insight when discussing why individuals help strangers in online communities. They found that people contribute their knowledge when they perceive that it enhances their professional reputations, when they have the experience to share, and when they are structurally embedded in the network. They add that contributions often occur without regard to expectations of reciprocity from others or without high levels of commitment to the network (Wasko and Faraj, 2005).

Roswell is a community of mostly strangers interacting together. When considering professional reputations in Roswell, they are not professional as such, i.e. are they not gained through any sort of qualification or formal recognition, however they are professional in the sense that belonging to a community such as Roswell means that a member has a certain level of technical skills, abilities and knowledge just to gain access and participate. Members generally do not invite new members with low technical skills as it also could reflect negatively on their 'professional reputation' if the new member does not actively participate. A member's professional reputation and online identity is heavily linked to their member class (eg power user) and their ratio. The higher the member class and the higher a member's ratio, the higher they perceive their professional reputation, or status, to be. Status relies in part upon reputation and is important in identifying oneself within the community. This is in line with Wasko and Faraj's (2005) findings that people contribute in a community of (mostly) strangers to enhance their reputation.

Member of the Roswell community engage in a "habit of cooperation" (Wasko and Faraj, 2005). Having the experience to share in Roswell works on a number of levels. Firstly, it is primarily concerned with the act of uploading new content. Roswell has quite strict rules about who has privileges to upload new content. These rules are not unlike similar underground file sharing systems in having such rules for the way to 'rip' and encode content, how to name content, and what sort of additional information needs to be provided as part of uploaded content (NFO files, track listings etc). Roswell is somewhat unique though in their rule to only allow a very small group of members to upload new content. In Roswell, only 5% of members have privileges to upload new content. This is done to maintain a very high level of quality of the content, both in terms of it being what it says it is (naming) and that it is the highest possible quality version of the content as is possible at that time (technical quality). In public file sharing networks (like Limewire), problems with both of these issues arise on a regular basis. In these public types of networks, content is often misnamed, and it is often of a low quality.

The source of the majority of content in a community such as Roswell is filtered down from what is called by insiders as 'the scene'; an environment of highly technical networks almost never seen by outsiders. Those in that 5% with privileges to add new content in Roswell, or at least some of them, more than likely have connections higher up in 'the scene' and use Roswell as a distribution outlet for this type of content. Having these connections also identify the uploader as someone who has extensive experience (as it takes connections and time to work your way into 'the scene'). For the content that a member is uploading from a source other than 'the scene' such as a locally aired TV or radio program, or a CD or DVD rip, they must follow the explicit rules for making it available to avoid having their content 'nuked', which is when content is either removed from access or marked as 'a bad rip' with a little nuclear image and is thereafter avoided. Having content nuked also negatively affects one's status in the community, so nuking content isn't a regular occurrence, but often happens for instance on pre-released content where someone has a 'cam' (video camera in cinema) copy of a movie, but doesn't declare that it is a cam (and therefore inferior and rarely acceptable) version of the movie.

Secondly, experience to share can be discussed in relation to Olivera et al.'s paper (2008) when a person responding to a request needs to decide if they have the experience to match the request (for content in the context of Roswell). If a person responding to a request doesn't easily find the exact match, they then need to decide if they want to continue the search until a match is found. This decision is usually based on the person's experience in retrieving requests for content previously, and their perceived likelihood of finding the match.

The third way experience is important in sharing is in the everyday participation in the community through sharing downloaded content. Members can only share the content they have downloaded from the community (apart from those identified 5% with upload privileges). Experience, and good technical skills, often translates into more active participation. Those with the higher levels of experience and technical skills are more likely to have their computers turned on longer, and to see the importance of them 'seeding' content for long periods of time. Many of these people run computer servers, which are always on. And of course those that have privileges to upload content and are part of 'the scene' are likely to spend extensive time on line on a daily basis (thus having their computer 'seeding' content) and are also likely to have the most experience through belonging to other similar communities and sources of file sharing such as this.

CONCLUSION

When considering the actions of individuals, observations of Roswell provided an excellent opportunity to gather detailed information about the norms of file sharing and the context in which it occurs, in order to gain a better understanding of an online community culture. Roswell also provided an opportunity to investigate the information systems that support an online community. Considering the norms involve what is considered in many countries as illegal activity, it was an interesting, and somewhat challenging community context to study.

Wasko and Faraj (2005) provide a useful way to understand contribution behaviours in online communities. They argue that contributions can occur without regard to expectations of reciprocity from others or high levels of commitment to the network. This paper argues that this can be a way of explaining activities in public file sharing systems like Limewire, where the expectation of reciprocity and commitment is low and accepted by those participating. However in a community such as Roswell, reciprocity and high levels of commitment are not only expected but they must occur else the member's membership is revoked. This paper provides insight into online community culture, and the norms of reciprocity in an underground music file sharing community.

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